

Support for claim 69 may be found in Example 5, page 38, line 29 to page 39, line 23, and page 40, lines 4-13.

### **Objection under 35 U.S.C. §112**

The Examiner has rejected claims 7, 8, 26, 37-39 and 64-68 under 35 U.S.C. §112, first paragraph, as the Examiner suggests that the term “regulatory element” would comprise multiple elements within the coding region, and that undo experimentation would be required to identify such regulatory elements.

Applicant has amended claims 7, 37, 64 and 65 to define the stress-induced regulatory element as an abiotic stress-induced root promoter. With reference to Figures 10-12 and 18, and as indicated in Example 5, marker gene activity was demonstrated within the roots of transgenic plants (Figure 10). *In vitro* assays comparing marker gene activity, demonstrated that root exhibited from 2-20 fold more expression of the marker gene than leaves (page 39, lines 21-23). Increased expression within the root, over that in the leaf, was observed by assaying mRNA levels of a target gene, AlaAT, (page 40, lines 9-13). *In vivo* immunolocalization of AlaAT using an AlaAT-specific antibody (page 41, lines 6-8; Figure 18) also exhibited a similar pattern of expression within the root as observed using the marker gene.

It is submitted that the amendments to claims 8, 37, and 64-68, to indicate that the promoter is a root promoter, more specifically define the subject matter of these claims. Claims 8 and 26 depend from claim 7, claims 38 and 39 depend from claim 37, claim 66 depends from claim 64, and claims 67 and 68 depend from claim 65, and these claims include the limitations of the amended independent claims.

Removal of the objection under 35 U.S.C. § 112, first paragraph against claims 7, 8, 26, 37-39 and 64-68 is respectfully requested.

### **Objection under 35 U.S.C. § 102**

Claims 7, 9 (claim 8), 26, 37-39 and 64-68 stand rejected under 35 U.S.C. §102(e) as being anticipated by Good et al. Applicant respectfully traverses this objection.

The subject matter of claims 7, and 37 pertain to a method of expressing a target gene in a plant using an abiotic, stress-induced root-specific promoter. There is no teaching within Good et al. of root-specific expression of a target gene. Rather, Good et al. disclose expression of a target gene under several biotic stresses within leaf tissue. Leaf expression as a result of a variety of stress-induced responses is disclosed in Figures 4 A-E and in Col 10, line 1-41 of Good et al. Conversely, the

present application discloses expression of a gene of interest that is predominantly expressed in the root.

As there is no teaching in Good et al. of root specific expression, it is submitted that the subject matter of claim 7 and 37 can not be anticipated by Good et al.

As noted above, claims 8 and 26 depend from claim 7, claims 38 and 39 depend from claim 37, claim 66 depends from claim 64, and claims 67 and 68 depend from claim 65, and further define the subject matter of these claims.

Applicant also brings to the Examiner's attention that the inventors of the present application and Good et al. are the same. Upon allowance of the present application, Applicant will consider submitting a terminal disclaimer in compliance with 37 C.F.R. 1.321(b) and (c), if appropriate, which will obviate this rejection.

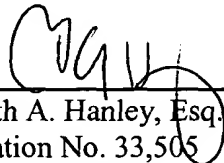
Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned **"Version with markings to show changes made"**.

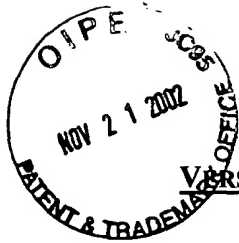
It is respectfully submitted that the above-identified application is in a condition for allowance and favorable reconsideration and prompt allowance of these claims are respectfully requested. Should the Examiner believe that anything further is desirable in order to place the application in better condition for allowance, the Examiner is invited to contact the applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,

Date: November 21, 2002

By

  
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VERSION WITH MARKINGS TO SHOW CHANGES MADE

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**In the claims:**

Claims 7, 37, and 64-68 have been amended as follows:

7. (twice amended) A method for directing [root-specific] expression of a target gene [in] within the root of a plant, comprising:

producing a plant from a transformed plant cell such that [root-specific] expression of a target gene occurs within the root,

wherein the transformed plant cell comprises a target gene in operative linkage with an abiotic stress-induced [genetic regulatory element] root promoter which directs [the root-specific] expression of the target gene.

37. (twice amended) A seed comprising a gene in operative linkage with an abiotic stress-induced [genetic regulatory element] root promoter which directs [the root-specific] expression of the target gene.

64. (amended) A transformed plant cell comprising a target gene in operative linkage with an abiotic stress-induced [genetic regulatory element] root promoter which directs [root-specific] expression of the target gene.

65. (amended) A transformed plant comprising a target gene in operative linkage with an abiotic stress-induced [genetic regulatory element] root promoter which directs [root-specific] expression of the target gene.

66. (amended) [A] The transformed plant cell of claim 64, wherein [comprising a target gene in operative linkage with] said root promoter is btg26.

67. (amended) [A] The transformed plant of claim 65, wherein [comprising a target gene in operative linkage with] said root promoter is btg26.

68. (amended) [A transformed] The seed of claim 37, wherein [comprising a target gene in operative linkage with] said root promoter is btg26.

Please add new claim 69 as follows:

69. (new) A method for directing expression of a target gene within the root of a plant, comprising, obtaining a plant comprising a target gene in operative linkage with an abiotic stress-induced root promoter, and growing said plant, wherein said abiotic stress-induced root promoter is characterized as exhibiting at least about 1.25 more activity in root tissue than in leaf tissue, when said plant is grown under non-stress-induced conditions.